

COMPOSTING

Composting is the process whereby organic material decomposes to form a stable product similar to soil humus. Any organic material will rot, but the art of composting speeds it up and eliminates odours by producing ideal conditions for decay. Composting is a way to recycle house and garden vegetable waste into a useful additive that will improve the texture and fertility of almost any soil. Composting can be done in heap, a home-made box or a commercial composter. A heap is probably the least satisfactory. It is difficult to construct neatly, is slow to break down, and needs to be turned at least once to ensure that the outside decomposes. If properly made, home-made containers are cheap, durable and do a good job. Commercial composters, while expensive initially, are efficient, long lasting and very suited to apartment balconies where space may be limited.

BENEFITS OF COMPOSTING

Compost is a valuable soil amendment. It can be dug into your garden, broadcast over your lawn, spread as a mulch around trees and shrubs, or used in plant pots. Composting is also an environmentally friendly way of disposing of household and yard wastes. Virtually any vegetable material can be added to the compost, although diseased plants and weeds in seed are best disposed of in the garbage.

Most kitchen wastes are easy to compost - cabbage leaves, potato peelings, tea bags, eggshells, etc. - but don't add meat and dairy products, as they will attract vermin. You can also put in hair, vacuum cleaner contents, pet litter and floor sweepings. From the garden, add grass clippings, weeds, flower heads and general garden refuse.

HOW TO MAKE COMPOST

I. MICROBES - There are the microscopic organisms that cause decay. They are found everywhere : in soil, water, dust, vegetation. Commercial starter cultures can be purchased but are unnecessary. If you want to jump start your compost save some rotted compost as a starter for the next batch.

2. AIR - Rotting will occur in absence of oxygen, but is slow, and results in foul odours. Compost requires good air circulation to ensure adequate levels of oxygen for the composting microbes. For pits and piles this requires frequent turning, which also serves to bring the outer material into the centre of the pile. Some commercial and homemade composters incorporate means of air circulation without turning, but some mechanical mixing is required for all methods.

3. WATER - The compost must always remain moist (about 65% water, by weight). During dry periods the compost will require hosing down. To test for moisture take a handful and squeeze. You should be able to squeeze some water out of the compost. Too much water can restrict air circulation, however. Foul smells or water lying around the base of the pile are indications of too much water. The moisture content of the pile is important. At moisture contents below 40 percent organic matter will not decompose rapidly. If the moisture content exceeds 60 percent, the process tends to become anaerobic. The optimal moisture content for composting is often observed to be 50 to 60 percent. When the compost is finished, however, the moisture content may be greatly reduced for easier handling.

4. NUTRIENTS - The decay organisms require balanced nutrition. If you are making compost from a variety of material this shouldn't be a problem. Grass clippings and kitchen scraps, for example, are rich in nutrients. A handful of general purpose fertilizer mixed in several times a year will speed up the process. If you are composting primarily sawdust, wood, or paper, some fertilizer will help. Lime, ashes and ground egg shells also provide essential nutrients and help to neutralize the compost if you are using acidic material.

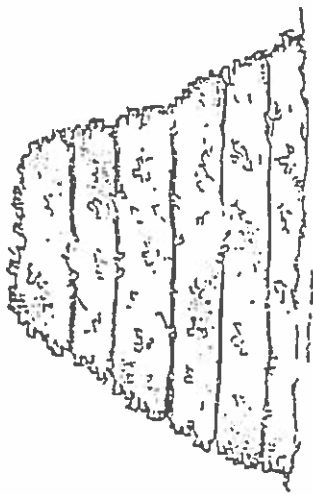
5. HEAT - Composting organisms produce heat which is trapped inside the pile. Under ideal conditions the temperature inside the pile. Under ideal conditions the temperature can exceed 60 °C. These temperatures will destroy weed seeds and diseases. Most backyard compost piles are too small to get this hot, however, so weed seeds and diseased plant material should not be used. Initially, the composting mass is at ambient temperature, but a rapid rise occurs as the microorganisms multiply. When the temperature moves past 40 °C

the mesophilic stage is replaced by the thermophilic stage varies, but it frequently is achieved in 2 or 3 days. the temperature stabilizes around 70 °C followed by a gradual cooling to ambient temperature.

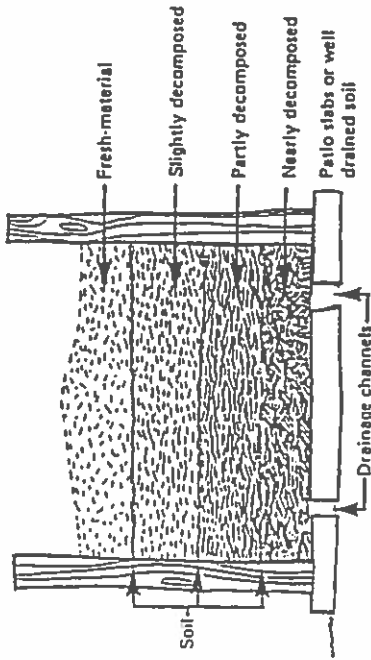
6. TIME - Under perfect conditions composting may be completed in a few weeks. However, backyard compost will usually take a year or more. If, when you dig down below the surface layer, you discover a dark-brown to black material that looks almost like soil, the compost is ready for use.

7. LOCATION - Ideally, a compost pile should be in semishade and protected from the coldest winds. Most important it must be easily accessible. Be sure the location is well drained.

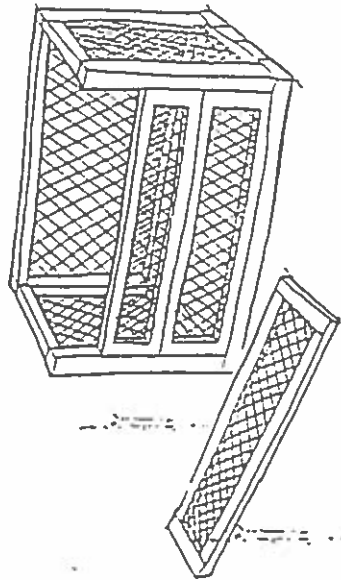
Once compost is finished, there are many uses for it. The most obvious one is to work it into the soil as a soil conditioner, which improves the water- holding capacity, soil workability, and aeration of the soil. While it has a limited value as a fertilizer, it is worthwhile. It is partially a slow release fertilizer, because some of the nitrogen and phosphorus are in organic form. This extends the availability of these elements over the growing season and lessens the chance of leaching.



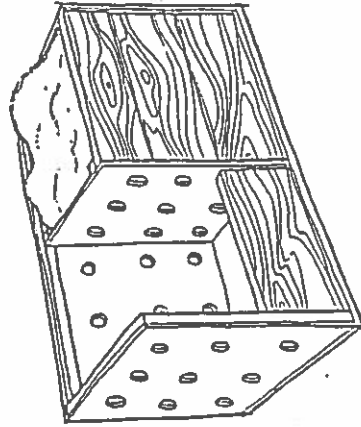
A well made compost pile.



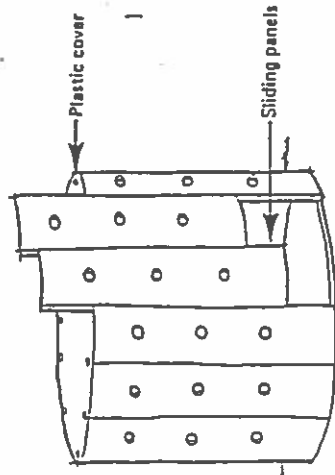
Cross section of a container.



A container made of wood framing covered with wire mesh. The front is in sections, which can be added as the contents increase.



A double container, with one side full.



A commercial composter.